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1. A meeting took place on 28 April 1953 at the Institute for the Organic Chemical Industry, Leipzig, at which the standardized production of heating oil (Heizoel) and fuel oil (Treiboel) in East Germany was discussed. The body which participated in the meeting formed the Working Group (Arbeitskreis) for the Standardization of Heating and Fuel Oils. Among others taking part were Dr. Koehler (fnu), chairman; Dr. Kersten (fnu), Koepsen; Dr. Fontaine (fnu), Reichsbahn Chemical Testing Station, Kirchmoeser; Gebhardt (fnu), of the technical supervision office of DHZ Kraftstoffe und Mineraloele; Oehme (fnu), Deutsches Amt fuer Material- und Warenpruefung 481, Koethen.

2. Koehler stated that the task of the Working Group was to evolve a standardized formula (technische Gueterichtlinien und Lieferbedingungen) (TGL) for the manufacture and shipping of heating oil and fuel oil during the course of 1953. The fuel oil concerned is not general Diesel fuel but a heavy, dark product which can be used in hot bulb motors (Gluehkopfmotoren) and slow speed Diesel motors. Koehler explained that the tasks had been assigned the Working Group by the Norms and Standards Department (Abteilung Normen und Guetesicherung) of the Zentralamt fuer Forschung und Technik (ZAFT). Despite the complaints of representatives of the various producing plants, Koehler stated that according to the East German Statute Book of 27 March 1953, page 472, it was incumbent upon individual plants to pay all costs incurred in the detachment and work of a member of its staff where he was working for the improvement of the plant's production. Koehler proposed that the Group first turn its attention to heating oil and thereafter concern itself with fuel oil.

3. Koehler stated that plants distilling heating oil from lignite tar were currently unable to produce oil equal to the quality achieved before and during World War II. This was the case because hydrocarbons which were suitable for the production of Diesel fuels had to be distilled as far as possible during the tar distillation process.

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Therefore, only those hydrocarbons remaining after distillation could be used for heating oil, especially the by-products of acid and alkaline refining and distillation residues. The heating oil produced by various plants differed; in those factories which produced relatively high amounts of Diesel fuel, however, the heating oil product could not be improved without lessening the quantity of Diesel fuel. A lowering of the Diesel fuel production total could not at the moment be tolerated because of the serious fuel supply situation.

4. The producing plants had been asked to give data on the heating oils they produce. The details presented follow:

Gebau

	Normal Heating Oil	Heating Oil Distillate	Heating Oil Containing Paraffin
Specific Gravity at 35° C	0.940 - 1.05	0.950 - 0.965	0.83 - 0.85
Flash Point	85 - 110° C	130 - 135° C	170 - 190° C
Freezing Point	20 - 25° C	25 - 32° C	30 - 35° C
Viscosity	at 50° C, 2.0-4.0° Engler	at 50°C, 1.5-2.5° Engler	at 100°C, 1.5-2.5° Engler
Water Content	0.5 - 2%	0.5 - 1.5%	under 1%
Minimum Caloric Value	8,000	9,000	9,400
Creosote Content	70 - 80%	about 25%	5 - 8%
Sulphur Content	1.5 - 2%	1.5 - 2%	1.5 - 2%

	Koeppen	Gerlach	Mositz
Specific Gravity at 20° C	0.999 - 1.02	about 0.950	1.03 - 1.06
Water Content	1 - 2%	0.2%	maximum 3%
Viscosity at 20° C 50° C	3 - 5° Engler	12 - 13° Engler 2.5 - 3° Engler	maximum 8° Engler
Flash Point open crucible closed crucible	95 - 120°C	80°C	over + 75°C
Freezing Point	+10 - 20°C	+9 - 15°C	maximum +10°C
Caloric Value maximum minimum	8,700 8,300	9,800 9,300	8,500 8,000
Sulphur Content	1.3 - 2%	1.7 - 2%	1.5 - 2%
Conradson Test	3 - 5%	up to 3%	1 - 10%
Creosote Content	30 - 50%	about 15%	60 - 75%

5. The Group was informed of various difficulties in the distribution of heating oil because of the seasonal nature of consumption and because the DHZ Kuhl had at its disposal no tanks in which the oil could be stored.

6. The fixing of the freezing point would provide great difficulty, since the point could be improved only in cases in which a slight Diesel fuel proportion remained in the heating oil. Similar were the problems of the viscosity and the Conradson test results. It was announced that in the future the shipping industry would need free flowing (duennfluessig) heating oil with a freezing point of plus five degrees Centigrade; this, it was agreed by the Group, would present special difficulties. The situation, however, was not too serious since the shipping industry's demands would not become pressing for another two years.

7. The delegates to the Group were told that they should consider the problems of standardization as soon as possible despite current difficulties since positive decisions would have to be taken at the next meeting. Dr. Kersten of Koepsen proposed that two types of heating oil should be standardized, one for burners using less than 30 kilograms of oil per hour (fuer Kleinfeuerungen), the second for those burners using 30 kilograms and over per hour (fuer Grossfeuerungen). In order to make this proposal more practical, it was further suggested that tests be carried out VEB Projektierung und Anlagenbau Chemie, Gruppenkonstruktionsbuero G 7, Meissen, and in the Boiler Testing House (Versuchskesselhaus) of Kraftwerkbau Berlin using a heavy and a light heating oil; the experiment would determine the usability of both types of oil, as well as the practicality of the definitions as above.

8. The following criteria were established for the two types of fuel:

Criteria	Unit	Kleinfeuerung	Grossfeuerung
Specific gravity at 20°C	gm/cm^3	maximum 1.06	maximum 1.06
Water content	weight %	maximum 1.0	maximum 3.0
Flash point, open crucible	C°	minimum 75 maximum 145	minimum 75 maximum 145
Freezing point	C°	maximum +15	maximum +30
Viscosity at 50°C	Engler°	maximum 4.0	maximum 8.0
Minimum caloric value	cal/kg	minimum 8,500	minimum 8,000
Sulphur content	weight %	maximum 2.5	maximum 2.5
Conradson test	weight %	maximum 4.0	maximum 10.0
Ash content	weight %	maximum 0.4	maximum 0.4

9. Following the presentation of the above data, discussion dealt with several points, among them the degree of seriousness which should be attached to the high water content of the heating oil. Dr. Koehler stated that the high water-carrying capacity of the large creosote content caused the high water content. Oehme said that he would be willing to have the problem of establishing dissolved (geloesten) and suspended water studied at the Koethen Engineering School. Further, it was decided to institute inquiries among consumer firms to determine if difficulties in use would arise as a result of the high Conradson test. Dr. Fontaine was assigned to determine if it was necessary to achieve a higher flash point. The DHZ KuM is to determine how much of both types of fuel would be necessary in East Germany.

10. The following basic standards were established for fuel oil (Treibool):

Specific gravity at 20°C	up to 0.9
Water content	not over 1%
Appearance	clear; free of mechanical impurities; color dark to opaque
Flash point in closed crucible	over 55°C
Conradson test	not over 1%
Beginning of the paraffin precipitation (BPA)	in winter (1 Oct-31 March): not over +-0°C in summer: ---
Freezing point	winter grade: not over -3°C summer grade: not over +0°C
Boiling behavior (Siedeverhalten) Start of boiling at 350°C	under 220°C minimum 70 Vol %
Viscosity at 20°C	maximum 2.0 Engler°
Sulphur content	maximum 2.0 weight %
Ash content	maximum 0.03 weight %
Minimum caloric value	minimum 9,300

It was not decided which method would be used to produce the fuel oil, nor was the Cetane count established.

11. The following further assignments were parcelled out to members of the Group; they were to have been completed by the next scheduled meeting of the Group on 3 September 1953: 1/